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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/320,637	05/26/1999	JOEL STERNHEIMER	33339-138407	5047

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EXAMINER

MARTINELL, JAMES

ART UNIT	PAPER NUMBER
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1631

DATE MAILED: 03/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/320,637

Applicant(s)

STERNHEIMER, JOEL

Examiner

James Martinell

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 21 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 14, 15, 17 and 19-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14, 15, 17, and 19-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

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The disclosure is objected to because of the following informalities.

- (a) The instant application does not comply with the Sequence Rules (37 CFR §§ 1.821-1.825). Sequence without SEQ ID NOs appear in at least the following locations (37 CFR § 1.821(d) and MPEP2422.03):

- 1) page 20, line 19,
- 2) page 21, lines 7, 9, 1, and 30, and
- 3) Figures 1, 3, and 4.

Appropriate correction is required.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 14, 15, 17, and 19-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims are vague, indefinite, incomplete, and incomprehensible.

- (a) The recitation of "minimizing the global harmonic distance between the frequencies of each pair of amino acids" (claim 21) is vague, indefinite, and incomprehensible. This part of this rejection is repeated for reasons already of record (*e.g.*, Office action mailed April 16, 2002, page 3, item (c)). Applicant's description of the phrase in the claim as a circumlocution of the formula on page 10, lines 2-8 is most unconvincing in that page 10, lines 2-8 reads:

The frequency of the musical notes is calculated from the frequencies of amino acids in their free state (proportional to their masses) by minimizing the global harmonic distance  $\sum_{ij} P_i P_j \log \sup (p_i, q_j)$  calculated for all possible pairs of notes,  $(p_i/q_j)$  being the harmonic intervals globally the closest to the corresponding proper frequency ratios. Their respective proportions  $P_i, P_j$  in the envioning population of transfer RNAs are taken into account.

The passage in the specification is no clearer than that in the claim.

Applicant's argument (response filed August 21, 2003, paragraph bridging pages 6-7) is not convincing because applicant does not explain how this passage is any more clear than the similar passage in now cancelled claim 13 (see the Office action mailed January 13, 2003, page 3, item (b)).

- (b) The recitation of "obtaining said code relative to its inhibition by symmetrization of the logarithms of heretofore obtained frequencies" (claim 21) is vague and indefinite. This part of this rejection is repeated for reasons already of record (*e.g.*, Office action mailed January 13, 2003, page 4, item (d)).
- (c) The recitation of "musical periods" (claims 19 and 20) is vague and indefinite because the term is not defined. This part of this rejection is repeated for reasons already of record (*e.g.*, Office action mailed January 13, 2003, page 5, item (g)). Applicant asserts (response filed August 21, 2003, page 9) that the term is used in its ordinary sense, but does not disclose what that is.
- (d) The recitation of "adjusting the phrasing to the measure" (claims 19 and 20) is vague and indefinite because the term is not defined. This part of this rejection is repeated for reasons already of record (*e.g.*, Office action mailed January 13, 2003, page 5, item (h)). Applicant's argument (response filed August 21, 2003, paragraph bridging pages 9-10) is not convincing. Applicant asserts that the term is used in its ordinary meaning, but does not disclose what that is and applicant does not disclose where or how the application as filed defines or explains the term. A post-filing date explanation or argument in the absence of

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evidence that the term was understood by those of skill in the art as of the effective filing date of the instant application are not convincing.

- (e) The recitation of "tone quality" (claim 13) is vague and indefinite because the term is not defined. This part of this rejection is repeated for reasons already of record (*e.g.*, Office action mailed April 16, 2002, page 4, item (n)). The addition of the purportedly synonymous term "timbre" does not clarify the meaning of the claim because "timbre" is vague and indefinite as well in setting the metes and bounds of the claim. Neither the text at page 14 of the specification nor Annex C further defines the terms.
- (f) The recitation of "wherein each sound transposition of quantum vibrations . . . index 0 showing the central value" (claim 22)" is incomprehensible. This part of this rejection is repeated for reasons already of record (*e.g.*, Office action mailed January 13, 2003, page 7, item (m)). Applicant complains (response filed August 21, 2003, paragraph bridging pages 11-12) that the examiner does not explain why the recitation is incomprehensible. The passage is simply not understood. The assertion that "obviously, those skilled in the art understand the phrase" is not convincing in the absence of a further explanation or evidence in connection with the level of understanding and skill of those whom applicant considers skilled in the art.
- (g) The recitation of "frequency of each amino acid" (claim 19) is vague and indefinite because it is not clear what the frequency of an amino acid is.
- (h) The recitation of "calculating the frequency of the musical notes from the frequency of said amino acid" (claim 19) is vague and indefinite because

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it is not clear how the calculation is carried out. In addition, "musical notes" (plural) does not agree with "amino acid" (singular).

- (i) The recitation of "playing . . . *in situ*" (claim 19) is vague and indefinite because it is not clear how the music can be played at the site of protein synthesis (*i.e.* a polyribosome).
- (j) The recitation of "obtaining the frequency of each amino acid, proportional to its mass by minimizing the global harmonic distance between the frequencies of each pair of amino acids in said protein" (claim 21) is vague and indefinite because it is not clear how the operation is to be carried out.
- (k) The recitation of "transposing the frequencies of said music notes into the audible frequencies, said code being relative to the synthesis stimulation of said protein" (claim 21) is vague and indefinite because it is not clear what is meant by "said code being relative to the synthesis stimulation".

Claims 14, 15, 17, and 19-22 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Each of the points mentioned in the rejection hereinabove (items (a) – (k)) is incorporated here. The invention is not described in such a way that one of skill in the art could understand and/or practice the invention. No clear connection between the discovery of discrete sizes of nascent polypeptide chains in the article by Varenne et al (J. Mol. Biol. 180: 549 (1984)) and the claimed methods has been established.

Claims 14, 15, 17, and 19-22 are rejected under 35 U.S.C. 101 because the disclosed invention is inoperative and therefore lacks utility. This rejection is repeated for reasons already of record (*e.g.*,

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Office action mailed January 13, 2003, paragraph bridging pages 8-9). Applicant's arguments (response filed August 21, 2003, pages 13-14) are not convincing because none of the evidence referred to has been connected to a regulation of protein synthesis. None of the evidence alluded to by applicant measures protein biosynthesis, but only monitors some gross activity (*e.g.*, growth or biomass production of plants as set forth in Annexes F1 and G1 and light production by *Vibrio fischeri* in Annex H).


Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Martinell whose telephone number is (571) 272-0719. The fax phone number for Examiner Martinell's desktop workstation is (571) 273-0719. The examiner works a flexible schedule and can be reached by phone and voice mail. Alternatively, a request for a return telephone call may be e-mailed to [james.martinell@uspto.gov](mailto:james.martinell@uspto.gov). Since e-mail communications may not be secure, it is suggested that information in such requests be limited to name, phone number, and the best time to return the call.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Woodward, can be reached on (571) 272-0722.

**PLEASE NOTE THE NEW FAX NUMBER**

The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1600.

  
**James Martinell, Ph.D.**  
**Primary Examiner**  
**Art Unit 1631**